Notice of Allowability	Application No.	Applicant(s)	
	09/538,015	BEN-MICHAEL ET AL.	
	Examiner	Art Unit	
	Brian D. Nguyen	2661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the amendment filed on 3/29/05*.

2. ☒ The allowed claim(s) is/are *1, 4, 8-10, 12-16, and 18-19 (renumbered 1-12, respectively)*.

3. ☒ The drawings filed on *29 March 2005* are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *08102005* .
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

8/10/05

BRIAN NGUYEN
PRIMARY EXAMINER

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2. Authorization for this examiner's amendment was given in a telephone interview with Mark L. Watson on 8/9/05.

The application has been amended as follows:

AMENDMENT TO THE SPECIFICATION

On page 2, lines 6-7, delete "See www.homepna.org".

AMENDMENT TO THE CLAIMS

Claims 2-3, 5-7, and 11 are cancelled.

Replace claims 1, 4, 8-10, 12-16, and 18-19 with the following claims:

Claim 1 (currently Amended) A method used by a device to resolve link frame collision, the method comprising:

(i) transmitting a link frame from the device if the device has not transmitted a frame in the last x seconds, where x is a positive real number;

(ii) if a frame collision is detected during step (i), the device transmits a link frame at a time interval after the last link frame transmission of the device has ended;

(iii) the device repeating step (ii) each time a frame collision is detected until the number of link frame transmission since the occurrence of step (i) equals a specified limit; and

(iv) if in performing step (iii) the number of link frame transmission since the occurrence of step (i) equals the specified limit, the device performing steps (i) and (ii) upon allowing a random interval of time to elapse after the last link frame transmission of the device has ended.

Claim 4 (Original) The method as set forth in claim 1, wherein the time interval is an Inter Packet Gap (IPG).

Claim 8 (currently Amended) A device comprising:

a transceiver for transmitting and receiving frames on a network; and

a finite state machine; wherein

while the finite state machine is in a first state, the device monitors frame transmissions by the transceiver;

while the finite state machine is in a second state, the device transmits link frames such that each link frame is transmitted at a time interval after the last link frame transmission has ended;

while the finite state machine is in a third state, the device does not transmit any link frames, wherein the finite state machine transitions from the third state to the first state after a random time interval upon entering the third state;

the finite state machine transitions from the first state to the second state if there has been no frame transmission for a time period;

the finite state machine causes the transceiver to transmit a link frame when transitioning from the first state to the second state; and

the finite state machine transitions from the second state to the first state if no frame collision is detected since the last link frame transmission.

Claim 9 (Currently Amended) The device as set forth in claim 8, wherein

the finite state machine transitions from the second state to the third state if the number of link frame transmissions since entering the second state is equal to a specified limit.

Claim 10 (Currently Amended) The device as set forth in claim 9, wherein

while the finite state machine is in the first state or the third state, a PHY-to-MAC transmit-clock signal is enabled; and

while the finite state machine is in the second state, the PHY-to-MAC transmit-clock signal is disabled.

Claim 12 (currently Amended) A device comprising:

a transceiver for transmitting and receiving frames on a network; and

a finite state machine; wherein

while the finite state machine is in a first state, the device monitors frame transmissions by the transceiver;

while the finite state machine is in a second state, the device transmits link frames such that each link frame is transmitted at a time interval after the last link frame transmission has ended, wherein the time interval is an Inter Packet Gap (IPG);

while the finite state machine is in a third state, the device does not transmit any link frames, wherein the finite state machine transitions from the third state to the first state after a random time interval upon entering the third state;

the finite state machine transitions from the first state to the second state if there has been no frame transmission for a time period;

the finite state machine causes the transceiver to transmit a link frame when transitioning from the first state to the second state; and

the finite state machine transitions from the second state to the first state if no frame collision is detected since the last link frame transmission.

Claim 13 (Currently Amended) The device as set forth in claim 12, wherein

the finite state machine transitions from the second state to the third state if the number of link frame transmissions since entering the second state is equal to a specified limit.

Claim 14 (currently Amended) The device as set forth in claim 13, wherein

while the finite state machine is in the first state or the third state, a PHY-to-MAC transmit-clock signal is enabled; and

while the finite state machine is in the second state, the PHY-to-MAC transmit-clock signal is disabled.

Claim 15 (Currently Amended) A device comprising:

a transceiver for transmitting a first link frame if the device has not transmitted a frame for a time period;

a collision detector, wherein if a first collision is detected by the collision detector during transmitting the first link frame, the device transmits a second link frame at a time interval equal to an Inter Packet Gap (IPG) after transmission of the first link frame;

a free-running counter; and

an oscillator to clock the free-running counter, wherein the free-running counter provides a random time interval so that if a number-of-collisions counter is equal to a specified limit when

another frame collision is detected, the random time interval is allowed to elapse before another link frame is to be transmitted.

Claim 16 (Currently Amended) The device as set forth in claim 15, wherein

the number-of-collisions counter is changed by an increment if the collision detector detects a second collision when the device transmits the second link frame.

Claim 18 (Currently Amended) A communication system comprising:

a network comprising a home phone line; and

a device coupled to the network to transmit and receive frames, the device comprising:

a transceiver for transmitting a first link frame if the device has not transmitted a frame for a time period;

a collision detector, wherein if a first collision is detected by the collision detector during transmitting the first link frame, the device transmits a second link frame a time interval equal to an Inter Packet Gap (IPG) after transmission of the first link frame;

a free-running counter; and

an oscillator to clock the free-running counter, wherein the free-running counter provides a random time interval so that if a number-of-collisions counter is equal to a specified limit when another frame collision is detected, the random time interval is allowed to elapse before another link frame is to be transmitted.

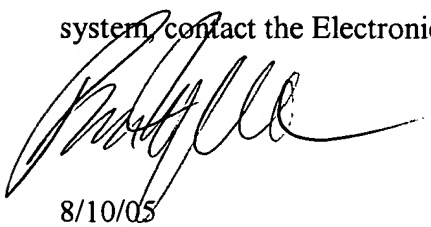
Claim 19 (Currently Amended) The communication system as set forth in claim 18, wherein the number-of-collisions counter is changed by an increment if the collision detector detects a second collision when the device transmits the second link frame.

Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian D. Nguyen whose telephone number is (571) 272-3084. The examiner can normally be reached on 7:30-6:00 Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (571) 272-3126. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



8/10/05

BRIAN NGUYEN
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